

## PSG 28, *Eurycnema herculeana* (Charpentier)

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### Key words

Phasmida, *Eurycnema herculeana*, *Eurycnema versifasciata*, Breeding, Rearing.

### Taxonomy

When I started to list the synonymy of this species I found that there was confusion in the published synonyms.

Westwood (1859: 107) gave *E. herculeana* (Charpentier) as a junior synonym of *E. versirubra* (Serville), and also said these (and also *E. versifasciata*) were just a variation of *E. goliath* (Gray). Kirby (1904: 391) also considered *E. herculeana* to be a junior synonym of *E. versirubra*. Redtenbacher (1908: 468) listed *E. herculeana* as a species but also indicated *E. versifasciata* (Serville) as a probable synonym. Redtenbacher then gave *E. versirubra* as a junior synonym of *Eurycnema goliath* (Gray). Although I have not examined the type specimens, there has been so much confusion that it seems quite possible that Westwood was correct in thinking that all four of these species may be just variations of the same species.

One thing is clear however, *E. herculeana* is probably not the valid name for this species. If Kirby's synonym was correct, the name should be *E. versirubra*: if Redtenbacher's synonym is correct, the name should be *E. versifasciata*: if Westwood was correct, the name should be *E. goliath*. In any of these cases, *E. herculeana* would be incorrect as it is not the oldest name. However below I list only papers which mention the name *herculeana*.

*Cyphocrania herculeana*, Charpentier, 1841a: pl. 1.

*Cyphocrania herculeana* Charpentier, Charpentier, 1841b: 283.

*Eurycnema herculeana* (Charpentier), Brunn, 1898: 148.

*Eurycnema herculanea* (Charpentier), Hanitsch, 1902: 35-38. [misspelling]

*Eurycnema herculeana* (Charpentier), Redtenbacher, 1908: 468.

*Eurycnema herculeana* (Charpentier), Werner, 1934: 4.

*Cyphocrania goliath* (Gray, 1834: 45). [Synonymised by Westwood, 1859: 107.]

= *Cyphocrania hanitschi* Sharp, 1898: 89. [Synonymised by Brunn, 1898: 160.]

? *Eurycnema versifasciata* (Serville), Redtenbacher, 1908: 468.

*Eurycnema versirubra* (Serville), Kirby 1904: 391.

In view of this confusion, it is worth mentioning three papers which deal with breeding *E. versifasciata* from West Malaysia. These are by Geitel (1913), Kitchener (1960) and Nadchatram (1963); Kitchener referred to his as *E. goliath* but this was corrected by Nadchatram.

One final point on the classification, I do not know who identified the PSG culture or how certain they were. I have not attempted to identify the species myself.

### Distribution

The PSG culture originates from West Malaysia. There is quite a detailed report of this species being reared in captivity in Singapore in 1897 (Hanitsch 1902). The species is sexual in the wild but all cultures appear to have been parthenogenetic. This species was originally described from Java and is also recorded from Timor, and Amboina by Redtenbacher (1908).

### Adults

This is one of the larger phasmids to come out of West Malaysia. The adult females look like green versions of *Acrophylla wuelfingi* (Redtenbacher). The female (fig. 1) reaches a body length of 190-220mm. It has a grass-green basic colour with some dark green shading on the legs. On the head there are two blueish stripes. The feet, antennae and eyes are light reddish-brown. The elytra are green with some creamy white markings; the undersides are pink. The wings are transparent blueish green and are quite large, spanning 145-155mm, but are not used for flight because the body is much too heavy. They are just used to break the fall if the insect drops from the foodplant.

The mesonotum bears many large spines and some dark green or brown lines on the underside.

The abdomen swells to a thickness of about 15mm. The genital operculum (fig. 2) is very large and protrudes more than 15mm beyond the end of the abdomen, it is used as a sort of sling to throw the eggs. The cerci are very big and irregularly formed.

The legs are all serrated and, especially on the hind tibiae, there are many large spines which are used for defence in a similar way to *Heteropteryx dilatata* (Parkinson). At the end of the hind tibiae are two large, brown lobes (fig. 3.). Leg lengths are about: fore 95mm, mid 70mm, hind 100mm. The antennae are around 15mm long.

The male has a body length of about 130mm and is a greenish brown colour.

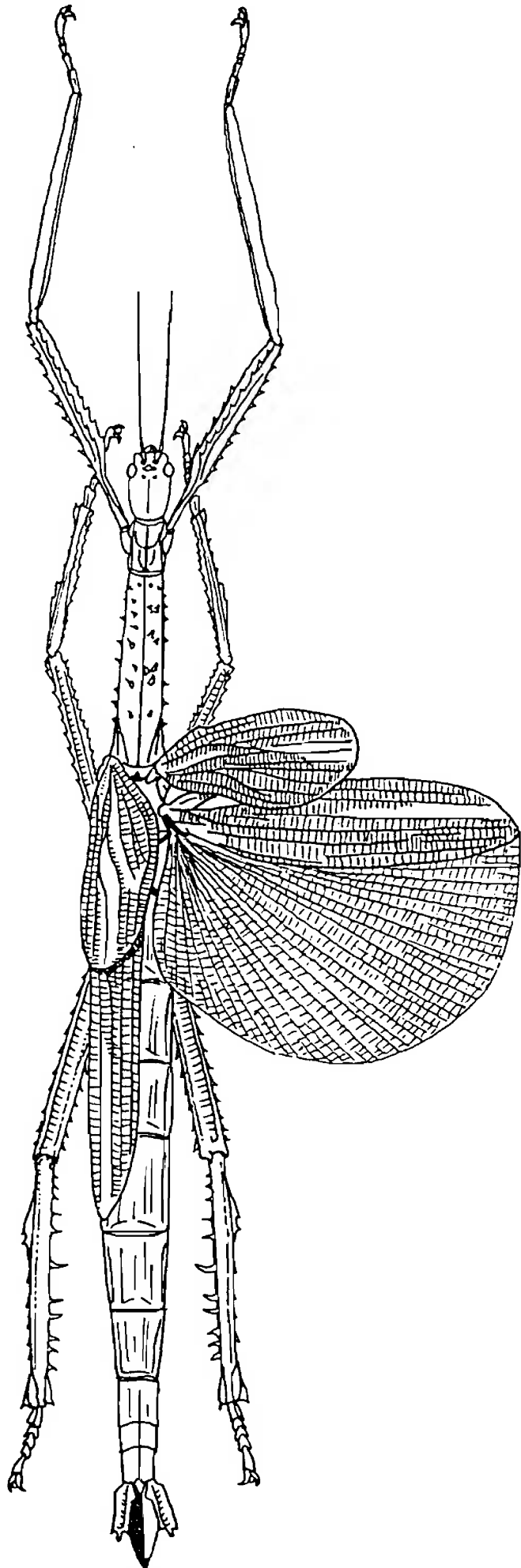


Figure 1. Female *Eurycnema herculeana*.

### Eggs (fig. 4)

The eggs are about 6mm long, 4mm high and 3.5mm wide. The colour is mostly a reddish light-brown but sometimes can be black. The micropylar plate is very small and is the same colour as the egg. The operculum is a flat, round, reddish brown plate; it bears a very big, light brown, capitulum on its centre which disappears when the egg gets older.

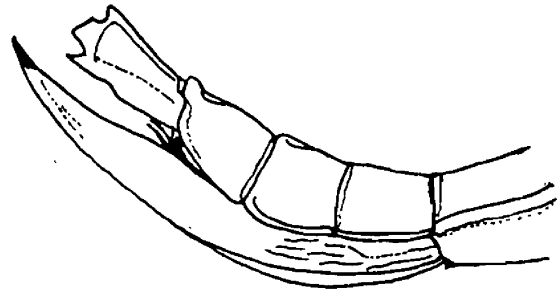


Figure 2. Genital operculum.

Eggs should be incubated at 25-30°C and a high humidity (80%) on a sand and peat mix. In these circumstances the nymphs hatch in about 6-15 months.

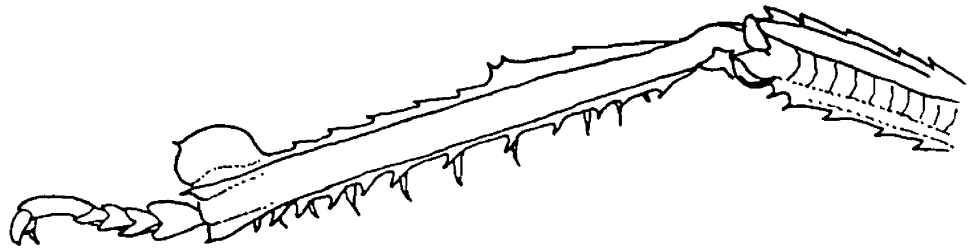


Figure 3. Hind tibia.

### Nymphs (fig. 5)

The newly hatched nymph has a body length of about 28mm, a big round head and short antennae. The body colour is a shiny dark brown with some lighter markings on the head and legs. On each side of the body there is a greenish yellow stripe which ends at the eighth abdominal segment. At the end of the abdomen, as in the adults, there are two very large cerci.

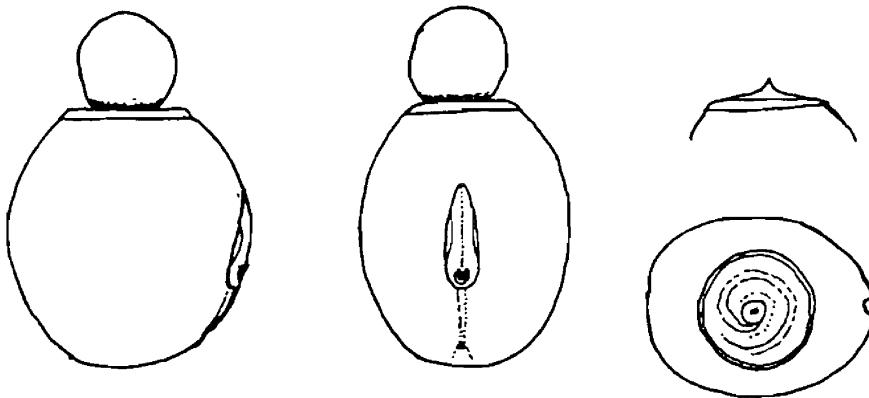


Figure 4. Egg of *Eurycnema herculeana*.

### Defence

Nymphs try to escape by running or walking away. In addition, adults flash their wings or pinch with their hind legs.

### Foodplants

The best foodplant seems to be Strawberry (*Fragaria* sp.), but I feed mine with Bramble (*Rubus* sp.) in winter and Oak (*Quercus* sp.) in summer. Noël Mal reported that his also appreciate

Guava (*Psidium guayava*). A friend of mine told me that his also eat Raspberry (*Rubus idaeus*).

### General comments

This is one of the more difficult species to rear successfully. Adults should be kept in a large well ventilated cage at about 25°C at night and 30°C in the daytime. Humidity should never be lower than 75%. Large nymphs should be kept in separate 50cm high cages, only one nymph per cage, to give them plenty of room to shed their skins.

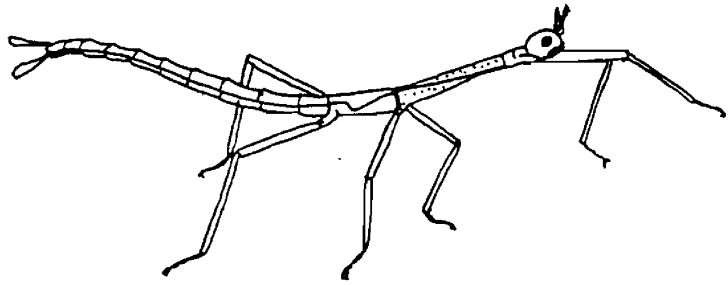


Figure 5. Nymph of *E. herculeana*.

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